

Long-Path OH Absorption Measurement: Optical telescope

Completed Technology Project (2015 - 2016)



Project Introduction

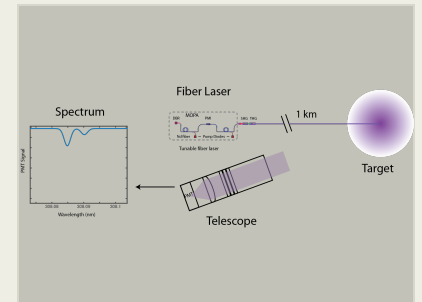
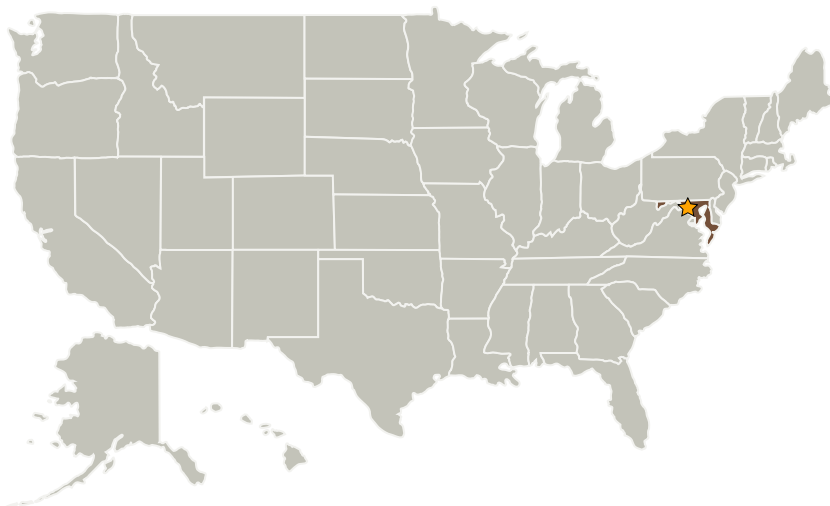
Transceiver for transmission and collection of laser light.

Anticipated Benefits

The transceiver will have maximum transmission for laser light and minimize solar scatter.

This technology is custom-designed for this experiment.

Primary U.S. Work Locations and Key Partners



Our concept tests the viability of long-path detection of OH with a tunable laser.

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Organizations Performing Work	Role	Type	Location
★ Goddard Space Flight Center (GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland

Primary U.S. Work Locations

Maryland

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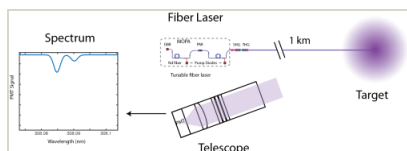
Project Transitions

October 2015: Project Start

September 2016: Closed out

Closeout Summary: The purpose of the Goddard Space Flight Center's Internal Research and Development (IRAD) program is to support new technology development and to address scientific challenges. Each year, Principal Investigators (PIs) submit IRAD proposals and compete for funding for their development projects. Goddard's IRAD program supports eight Lines of Business: Astrophysics; Communications and Navigation; Cross-Cutting Technology and Capabilities; Earth Science; Heliophysics; Planetary Science; Science Small Satellites Technology; and Suborbital Platforms and Range Services. Task progress is evaluated twice a year at the Mid-term IRAD review and the end of the year. When the funding period has ended, the PIs compete again for IRAD funding or seek new sources of development and research funding or agree to external partnerships and collaborations. In some cases, when the development work has reached the appropriate Technology Readiness Level (TRL) level, the product is integrated into an actual NASA mission or used to support other government agencies. The technology may also be licensed out to the industry. The completion of a project does not necessarily indicate that the development work has stopped. The work could potentially continue in the future as a follow-on IRAD; or used in collaboration or partnership with Academia, Industry and other Government Agencies. If you are interested in partnering with NASA, see the TechPort Partnerships documentation available on the TechPort Help tab. <http://techport.nasa.gov/help>

Images



Long path OH absorption

Our concept tests the viability of long-path detection of OH with a tunable laser.

(<https://techport.nasa.gov/image/32177>)

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:

Peter M Hughes

Project Manager:

Matthew J McGill

Co-Investigators:

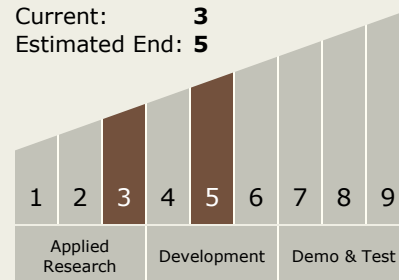
Steven A Bailey
Paul R Stysley

Technology Maturity (TRL)

Start: 3

Current: 3

Estimated End: 5



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Technology Areas

Primary:

- TX08 Sensors and Instruments
 - └ TX08.1 Remote Sensing Instruments/Sensors
 - └ TX08.1.3 Optical Components

Target Destination

Earth

Supported Mission Type

Push